

**MULTIPLE VIDEO DISPLAY GAMING MACHINE AND GAMING SYSTEM**

**INVENTORS:**

**CLIFTON LIND**

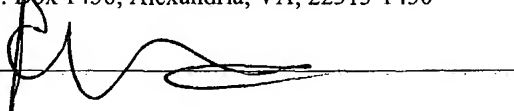
**JEFFERSON C. LIND**

"Express Mail" Mailing label number **EL 908 289 225 US**

Date of Deposit: July 22, 2003

I hereby certify that this paper or fee is being deposited with the United States Postal Services "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA, 22313-1450

Russell D. Culbertson, Reg. No. 32,124

A handwritten signature in black ink, appearing to be 'R. Culbertson', is written over a horizontal line.

1           MULTIPLE VIDEO DISPLAY GAMING MACHINE AND GAMING SYSTEM  
2

3                   CROSS-REFERENCE TO RELATED APPLICATION

4           This application is related to United States provisional patent application No. 60/470,081,  
5   filed May 13, 2003, entitled MULTIPLE VIDEO DISPLAY GAMING MACHINE AND  
6   GAMING SYSTEM, the entire content of which is hereby incorporated herein by this reference.  
7   The Applicant hereby claims the benefit of this earlier pending provisional application under 35  
8   U.S.C. §119(e).  
9

10                   TECHNICAL FIELD OF THE INVENTION

11           The present invention relates to gaming machines that incorporate a video display and to  
12   systems that include a number of such gaming machines.  
13

14                   BACKGROUND OF THE INVENTION

15           A number of different games of chance may use electronic gaming machines as an  
16   interface through which players may participate in the game. For example, electronic gaming  
17   machines may be used to imitate a traditional mechanical slot machine, a poker game, blackjack  
18   game, or other traditional casino games. Electronic gaming machines may also be used to play  
19   lottery games, bingo and games similar to bingo, and other games of chance that are not  
20   necessarily related to any traditional casino game.

21           Electronic gaming machines are commonly housed in a large and oftentimes standalone  
22   cabinet. The cabinet includes a front side on which is mounted a game video display along with

1 player controls. Player controls may include various types of mechanical controls such as  
2 switches, buttons, and levers mounted on a forwardly extending ledge below the game video  
3 display. Player controls may also be incorporated into the game video display itself using touch  
4 screen technology. In addition to the game video display and basic player controls through which  
5 the player makes choices or takes action in the game offered through the gaming machine, the  
6 gaming machines may also include other player interface devices such as coin or paper currency  
7 acceptors, player card or credit card acceptors, keypads, and other player interface devices. As  
8 with traditional mechanical gaming machines, electronic gaming machines also commonly  
9 include a number of static graphic displays. In electronic gaming machines, these static graphic  
10 displays are mounted above the game video display and/or below the game video display on the  
11 front side of the cabinet. These static graphic displays generally provide information regarding  
12 the game offered through the gaming machine such as pay tables and other game related  
13 information, and include colorful and attractive graphics that are coordinated with the video  
14 display shown on the game video display in the course of game play. The static graphic displays  
15 may also incorporate ono-static elements such as counters or numeric displays for showing bonus  
16 or progressive play information. Video displays may also be incorporated into the static graphic  
17 displays to show game related information or information unrelated to the game available at the  
18 gaming machine. The graphic display located above the game video display is commonly  
19 referred to as the top glass, whereas the graphic display located below the game video display is  
20 commonly referred to as the belly glass.

1           The look of a particular game to a player at an electronic gaming machine may be referred  
2 to as the game presentation. This game presentation includes the animated graphics displayed on  
3 the game video display and associated static graphics shown on the top glass and belly glass. For  
4 example, a gaming machine providing a game presentation imitating a mechanical slot machine  
5 will include graphics displayed on the game video display to imitate a number of reels. In  
6 response to a player control, these representations of reels are set in motion using suitable  
7 graphics display techniques and are made to appear to stop at some final stop position that  
8 indicates the outcome of the play. The top glass and belly glass will commonly have graphics  
9 associated with a theme of the imitated slot-type game, and a payout table showing payouts for  
10 various reel stop positions. As another example, a gaming machine providing a game  
11 presentation imitating a poker game may include animated graphics displayed on the game video  
12 display showing a card deal and allowing the player to see the cards they are dealt and perhaps  
13 certain cards dealt to the house or other players depending upon the specific type of poker game  
14 being portrayed. The top and belly glass graphics which are part of the poker presentation will be  
15 related to the poker theme and may also include payout tables for the poker game, game rules,  
16 and other information.

17           The game presentation of an electronic gaming machine may depict the actual game  
18 offered through the gaming machine or some other game of chance. An example of an electronic  
19 gaming machine that depicts the actual game being played is a slot machine type game in which  
20 the gaming machine itself or some associated piece of equipment executes a program to  
21 independently pick the reel stop positions for a given play. A video lottery terminal is an

1 example of an electronic gaming machine that may depict a game different from the game  
2 actually being played to determine a win/loss result. In video lottery terminals, the win/loss  
3 result is determined by a predetermined video lottery ticket or data record that is selected from a  
4 set of such records in response to a game play request. The game video display of a video lottery  
5 terminal may simply show a representation of the predetermined lottery record selected for a  
6 given game play request. However, the graphics provided on the game video display may  
7 alternatively provide a presentation of a different game such as a presentation including spinning  
8 reels imitating a traditional mechanical slot machine. The reel stop position is dictated by the  
9 result associated with the predetermined video lottery record selected in response to a game play  
10 request at the video lottery terminal.

11 A given gaming facility that employs electronic gaming machines may include numerous  
12 machines to accommodate a large number of players. Each of the gaming machines is generally  
13 dedicated to a particular presentation or perhaps a number of related presentations. Although the  
14 underlying hardware included in the gaming machine may be fairly generic from one game  
15 presentation to the next, the game presentation provided by the gaming machine may be switched  
16 only by replacing the top glass and belly glass and perhaps by changing the player controls to  
17 accommodate the new game presentation. Thus, changing the game presentation provided by an  
18 electronic machine to an entirely different presentation is a substantial undertaking and may be  
19 accomplished only by taking the gaming machine out of service for a relatively long period of  
20 time. A switch of game presentations commonly requires removing the gaming machine from  
21 the casino floor for the changeover. That is, if a casino desires to change from a gaming machine

1 having a presentation that has proven to be unpopular to a gaming machine having a more  
2 popular presentation, essentially the entire gaming machine must be replaced for at least taken  
3 and service for a substantial period of time to change the static graphic displays. Because  
4 switching game presentations in a gaming machine is so involved, the game presentations offered  
5 in a given gaming facility are fairly static. It is noted that even in prior art gaming machines that  
6 allow the player to choose from among several different games, portions of the game presentation  
7 remains static between the different games available at the gaming machine.

#### 9 SUMMARY OF THE INVENTION

10 The present invention includes a gaming machine and a gaming system having a number  
11 of individual gaming machines. The invention also encompasses a method of producing a game  
12 presentation at a gaming machine and a method of controlling a gaming machine.

13 A gaming machine according to the invention includes a cabinet having a game video  
14 display mounted on a front side of the cabinet. The gaming machine also includes at least one  
15 more additional video display mounted on the front side of the cabinet either above or below the  
16 game video display. A player control device is also mounted on the front side of the cabinet.  
17 This player control device may be separate from the video displays or may be integrated with one  
18 or more of the video displays in the form of a touch screen portion of one or more of the video  
19 displays.

20 In one preferred form of the invention the player control device includes a player control  
21 touch screen display that forms a portion of a forwardly projecting player control ledge below

1 the game video display. The player control ledge extends transversely to a plane of the game  
2 video display.

3 In addition to the player control device, a gaming machine according to the present  
4 invention may also include at least one more player interface device such as a player card reader,  
5 currency acceptor/validator, or coin acceptor mounted on the cabinet. These player interface  
6 devices may be mounted on the front side of the cabinet on the player control ledge or elsewhere.

7 The additional video displays mounted above and/or below the game video display may  
8 be used to display the portion of a game presentation previously displayed by the static displays  
9 used in prior art gaming devices. For example, a first additional video display mounted above  
10 the game video display may extend across the entire front surface of an upper portion of the  
11 gaming device, making up the entire area used for the top glass in prior art gaming machines.  
12 Such a video display may be used to display the information and graphics previously displayed  
13 by the top glass found in a prior art gaming machine. A second additional video display mounted  
14 below the game video display may extend across substantially the entire width of a lower portion  
15 of the gaming device, making up the entire area used for the belly glass in prior art gaming  
16 machines. Such a second additional video display may be used to display the information and  
17 graphics previously displayed by the belly glass of a prior art gaming machine. Using additional  
18 video displays rather than static displays provides two important advantages. First, the additional  
19 video displays facilitate animated and more interesting graphics and also allow much more  
20 information to be displayed. This greatly increases the flexibility of the gaming machine and  
21 allows the gaming machine to provide more interesting presentations. The second major

1 advantage associated with employing additional video displays according to the present invention  
2 is that the additional video displays allow the entire game presentation of a particular gaming  
3 machine to be modified without modifying the static structure of the gaming machine itself. That  
4 is, rather than taking a gaming machine out of service to change out the top and belly glass, and  
5 perhaps other static graphics on the gaming machine cabinet, the additional video displays of the  
6 present invention may simply be provided with different instructions to display a different  
7 presentation. Game presentations may even be changed to meet demand in a particular gaming  
8 facility.

9 A gaming system according to the present invention includes a number of gaming  
10 machines, each gaming machine including a single player game presentation arrangement having  
11 two or more video displays. The two or more video displays include a game video display and  
12 least one additional video display mounted above or below the game video display on a front side  
13 of gaming machine cabinet.

14 In addition to the gaming machines, the gaming system according to the invention also  
15 includes a modification controller for selectively issuing presentation switching instructions to  
16 the various gaming machines included in the system in response to a control input. The control  
17 input may be entered by a player at a particular gaming machine to request a different game  
18 presentation. Alternatively or additionally, a gaming machine usage monitoring controller  
19 monitors usage of gaming machines in the system and provides the control input based on the  
20 usage of the gaming machines. A game presentation server may also be included in the system  
21 with associated storage for storing a library of game presentation instruction sets. Each



1 presentation instruction set is executable for causing a gaming machine to provide a given game  
2 presentation.

3 These and other advantages and features of the invention will be apparent from the  
4 following description of the preferred embodiments, considered along with the accompanying  
5 drawings.

#### 6 7 BRIEF DESCRIPTION OF THE DRAWINGS

8 Figure 1 is a view in perspective of a gaming machine embodying the principles of the  
9 invention.

10 Figure 2 is a schematic diagram showing the various components of one preferred form a  
11 gaming machine according to the present invention.

12 Figure 3 is a schematic diagram showing a gaming system embodying the principles of  
13 the present invention.

14 Figure 4 is a process flow chart illustrating a gaming machine control process according  
15 to the present invention.

#### 16 17 DESCRIPTION OF PREFERRED EMBODIMENTS

18 Referring to Figure 1, a gaming machine 10 includes a cabinet 11 having a front side  
19 generally shown at reference numeral 12. A game video display 14 is mounted in a central  
20 portion of the front surface 12 with a player control ledge 16 positioned below the game video  
21 display and projecting forwardly from the plane of the game video display. This forwardly

1 projecting ledge 16 defines a location for one or more player controls as described further below.

2 In addition to the game video display 14, the illustrated form of the invention includes a first  
3 additional video display 17 positioned on the front side of cabinet 11 above game video display  
4 14, and a second additional video display 18 mounted on the front side of the cabinet below the  
5 game video display. Each of these displays, the game video display 14, first additional video  
6 display 17, and second additional video display 18 participate in the operation of game machine  
7 10 to provide a presentation for a particular game. It is noted that the gaming machine 10 is  
8 shown in an operating position in Figure 1, and that descriptions of positions above or below a  
9 given element of the gaming machine are made with reference this operating position.

10 Gaming machine 10 illustrated in Figure 1, includes a player control touch screen display  
11 15 that defines a portion of the player control ledge extending forwardly from the plane of game  
12 video display 14. With this separate player control touch screen, the illustrated gaming machine  
13 10 includes a total of four different video displays that together provide the game presentation in  
14 the course of operation of the gaming machine. In addition to the separate player control touch  
15 screen 15, gaming machine 10 also includes mechanical player control or input buttons 19  
16 mounted on ledge 16. Other forms of the invention may include switches, joysticks, or other  
17 player control on input devices mounted on ledge 16. However, all of the traditional player  
18 control inputs from devices such as switches, buttons, and pointer controls, can be provided  
19 through the illustrated touch screen display/player control device 15. Using the separate player  
20 control touch screen display 15 in gaming machine 10 allows the player controls to be modified  
21 readily from one game presentation to the next and even within a single presentation.

1           It will be appreciated that gaming machines may also include player interface devices in  
2 addition to devices that are considered player controls or inputs for use in playing a particular  
3 game. For example, gaming machines commonly include a player card reader, a voucher or  
4 ticket reader/issuer, a currency acceptor/validator, and/or coin or token acceptors/dispensers. The  
5 form of the invention shown in Figure 1 includes these types of additional player interface  
6 devices on a lower portion of the cabinet 11 generally in the plane of the lower or second  
7 additional video display 18. These additional player interface devices 20 are located around the  
8 periphery of second additional video display 18. However, other forms of the invention may  
9 configure one or more separate displays to make up the overall display 18 with interface devices  
10 20 or even mechanical player controls mounted within the area of the second additional video  
11 display. This use of apparent openings in the video display also applies to the player control  
12 video display 15 and other video displays on machine 10.

13           Although Figure 1 shows four separate video displays that combine to produce the game  
14 presentation for gaming machine 10, it will be appreciated that fewer video displays may be used.  
15 For example, a gaming machine according to the invention may include game video display 14  
16 and only a single additional video display that may be mounted above or below the game video  
17 display and take up the entire area of the gaming machine front surface previously reserved for a  
18 static top glass or belly glass display. Also, although each video display shown in Figure 1 is  
19 indicated as being a single display, it will be appreciated that each video display 14, 15, 17, and  
20 18 shown in Figure 1 may in fact be made up of two or more separate displays that combine to  
21 provide what appears to the user to be a single display. It will also be appreciated that many

1 different types of video displays may be used for the displays in the present invention including  
2 cathode ray tubes, liquid crystal displays, plasma displays, or any other type of video display  
3 currently known or that may be developed in the future.

4 Figure 2 provides a block diagram showing all the components of gaming machine 10  
5 (shown in Figure 1) including the displays 14, 15, 17, and 18. Gaming machine 10 includes a  
6 central processing unit (CPU) 25 along with random access memory 26 and nonvolatile memory  
7 or storage device 27. All of these devices are connected on a common system bus 28 with an  
8 audio interface device 29, communications interface 30, and a serial interface 31. Two graphics  
9 processors 35 and 36 are also connected on the common bus 28 and are connected to drive the  
10 displays mounted on cabinet 11 (shown in Figure 1). Graphics processor 35 controls game video  
11 display 14 and player control display 15 while graphics processor 36 controls first additional  
12 display 17 and second additional display 18. The system shown in Figure 2 also includes a touch  
13 screen controller 37 connected to system bus 28. Touch screen controller 37 is also connected to  
14 receive signals from touch screen elements associated with each display, 14, 15, 17, and 18. It  
15 will be appreciated that the touch screen elements themselves comprise thin films that are  
16 secured over the respective video display. These touch screen elements are not illustrated or  
17 referenced separately in the figures. It will also be appreciated that touch screen elements may  
18 not be associated with each display, although most preferred forms of gaming machines  
19 according to the present invention will have a touch screen element associated with at least game  
20 video display 14 and player control video display 15.

1 All of the elements 25, 26, 27, 28, 29, 30, and 31 shown in Figure 2 are elements  
2 commonly associated with a personal computer. These elements are preferably mounted on a  
3 standard personal computer chassis and housed in a standard personal computer housing which is  
4 itself mounted in cabinet 11 shown in Figure 1. Those familiar with personal computers and the  
5 various standard personal computer elements shown in Figure 2 will appreciate that many  
6 variations on this illustrated structure may be used within the scope of the present invention. For  
7 example, since serial communications are commonly employed from a touch screen element  
8 secured over a video display, a system according to the invention may not include a separate  
9 touch screen controller 37. Rather, communications from the touch screen elements may be  
10 accommodated through any suitable peripheral interface such as a USB controller or a IEEE  
11 1394 controller. Thus, the connections shown from touch screen controller 37 to the various  
12 displays may alternatively run from the displays (or more precisely the touch screen elements  
13 associated with the displays) to the serial interface 31 or any other suitable interface. Numerous  
14 other variations in the gaming machine internal structure and system may be used in accordance  
15 with the principles of the present invention.

16 It will also be appreciated that graphics processors are also commonly a part of modern  
17 personal computer systems. Although two separate graphics processors 35 and 36 are shown for  
18 controlling the four displays included in this form of the invention, it will be appreciated that a  
19 separate graphics processor may be included in the system for each particular display. It is also  
20 possible for a single graphics processor to control all of the video displays mounted on gaming  
21 machine 10.

1 CPU 25 executes game software which ultimately controls the entire gaming machine 10  
2 including the presentation provided through the video displays. CPU 25 also executes software  
3 related to communications handled through communications interface 30, and software related to  
4 various peripheral devices such as those connected to the system through audio interface 29,  
5 serial interface 31, and touch screen controller 37. CPU 25 may also execute software to perform  
6 accounting functions associated with game play. Random access memory 26 provides memory  
7 for use by the central processing unit in executing its various software programs while the  
8 nonvolatile memory or mass storage 27 provides storage for programs not in use or for other data  
9 generated or used in the course of gaming machine operation. Communications interface 30  
10 provides an interface to other components of a gaming system that may be involved in game  
11 play. For example, some gaming machines rely on remote processing units for providing  
12 accounting functions associated with game play and also for providing game results. U.S. patent  
13 No. 6,524,184 provides an example of a gaming system which includes player terminals and  
14 remote systems for providing results from predetermined game play records stored at the remote  
15 systems. Even where the results of game play are determined at the gaming machine itself,  
16 gaming machines are commonly interfaced with systems for accounting purposes and control  
17 purposes, and communications interface 30 provides an interface for such communications.  
18 Communications interface 30 also provides an interface to a processor that controls presentation  
19 changes at the gaming machine as will be described below with reference to Figure 3.

20 Audio interface 29 provides an interface for an audio system that may be included in  
21 gaming machine 10. Serial interface 31 provides an interface for serial devices such as player

1 controls not incorporated in any touch screen display, and possibly the touch screen elements  
2 themselves, and other player interface devices such as currency acceptors/validators, a player  
3 card reader, voucher readers/printers, and coin/token drops. Commonly, a single serial interface  
4 device is used to communicate with a number of serial devices through a suitable serial protocol  
5 such as USB or IEEE 1394. However, it will be appreciated that additional serial interfaces may  
6 be used depending upon the nature of the serial protocols used for communications and the  
7 number of serial devices included in gaming machine 10.

8 It will be appreciated that other basic components will be included in gaming machine 10  
9 such as a power supply, cooling systems for the various processors, audio amplifiers and  
10 speakers, and other devices that are common in gaming machines. These additional devices are  
11 omitted from the drawings so as not to obscure the present invention in unnecessary detail.

12 Referring now to Figure 3, a number of gaming machines 10 are included in a gaming  
13 system 40 according to the present invention. The eight gaming machines 10 shown in Figure 3  
14 only for purposes of example are divided into three separate groups indicated by dashed lines 41,  
15 42, and 43. Each gaming machine 10 is shown connected to a network hub or switch 45. A  
16 separate processing device 47 is also shown connected to hub/switch 45. This separate  
17 processing device is used according to the invention to implement a presentation server 48 with  
18 associated presentation storage 49, a modification controller 50, and a usage monitoring  
19 arrangement 51. This separate processing device 47 may comprise a single computer executing  
20 software instructions to provide the communications and functions for presentation server 48,

1 presentation storage 49, modification controller 50, and usage monitoring arrangement 51  
2 described further below.

3 It will be appreciated by those skilled in the art of computer networks and computer  
4 system communications that the arrangement illustrated in Figure 3 provides only a single  
5 example of a network arrangement that may be used to implement the present invention. The  
6 illustrated example would be appropriate for direct TCP/IP communications with the individual  
7 gaming machines. Other forms of the invention may use serial communications with gaming  
8 machines and may also include a suitable serial controller interposed between one or more  
9 gaming machines and hub/switch 45. The present invention is generally not limited to any  
10 particular communications arrangements or protocols for providing communications between the  
11 respective gaming machines 10 and the processor 47. It will also be appreciated that the  
12 processing functions described below for components 48, 49, 50, and 51 may be distributed to  
13 different processors and are not necessarily performed by a single processor indicated at  
14 reference numeral 47. In particular, each gaming machine 10 may include sufficient processing  
15 capability and operational software to perform the functions of the modification controller 50,  
16 and usage monitoring arrangement 51. That is, the gaming machine 10 itself may monitor  
17 gaming machine usage conditions and switch presentations based upon the detected conditions  
18 according to some predetermined standard, formula, or logic. For example, a gaming machine 10  
19 according to the invention may be configured to switch presentations on its own accord in the  
20 event no player has played a game on the gaming machine for a given period of time.



1           The three different groups of gaming machines 10 are shown to illustrate that a gaming  
2 system according to the present invention at a given gaming facility may include different groups  
3 of gaming machines 10 with each different group including gaming machines controlled or  
4 configured to provide a particular game presentation. The number of gaming machines 10 shown  
5 in Figure 3 is shown only for purposes of example and it will be appreciated that a gaming  
6 system 40 according to the invention may include large numbers gaming machines all connected  
7 for communications with one or more processors used to implement presentation server 48,  
8 modification controller 50, and usage monitoring arrangement according to the invention.

9           Modification controller 50 is implemented in software instructions executed by processor  
10 47 and operates to selectively issue presentation switching instructions to the various gaming  
11 machines 10 included in gaming system 40. These presentation switching instructions are  
12 executed at the receiving gaming machine 10 to cause the gaming machine to switch from a first  
13 game presentation to a second game presentation.

14           In one form of the invention, modification controller 50 issues presentation switching  
15 instructions in response to a control signal derived from a presentation change request that a  
16 player inputs at a respective one of the gaming machines 10. Alternatively to issuing  
17 presentation switching instructions in response to a player request, gaming system 40 includes  
18 arrangements for issuing presentation switching instructions automatically. In the form of the  
19 invention illustrated in Figure 3 for example, a usage monitoring arrangement 51 implemented in  
20 software executed by processor 47 monitors the usage of the various gaming machines 10  
21 included in system 40. Upon detecting certain predetermined usage conditions, monitoring

1 arrangement 51 may issue a control signal to modification controller 50 which responds by  
2 issuing presentation switching instructions to one or more gaming machines 10. For example,  
3 where the usage information indicates that all or most of the gaming machines at a facility  
4 offering a particular game presentation are in use while gaming machines providing another  
5 game presentation are not in use, usage monitoring arrangement 51 may provide a control signal  
6 or signals to cause modification controller 50 to issue presentation switching instructions to  
7 unused gaming machines offering the less popular game presentation. These switching  
8 instructions would cause the receiving gaming machines 10 to switch to provide the more  
9 popular game presentation. Of course, the issuance of instructions to switch from one game  
10 presentation to another in a particular gaming machines may not be fully automated and may  
11 require certain operator intervention within the scope of the invention.

12 Presentation server 48 and its associated storage 49 provide a repository of a number of  
13 different game presentation instruction sets. Each game presentation instruction set is executable  
14 at a gaming machine 10 to provide a particular game presentation at the gaming machine. In  
15 some forms of the invention of the issuance of a presentation switch instruction from  
16 modification controller 50 is made in conjunction with a transfer of a given presentation  
17 instruction set from presentation server storage 49 to the particular gaming machine or machines  
18 10 receiving the switch command. Presentation server 48 and its associated storage 49 facilitate  
19 storing a large number of different game presentations which may be downloaded to the various  
20 gaming machines 10 as needed. In other forms of the invention, however, each gaming machine  
21 10 may include sufficient storage capacity (in mass storage or non-volatile memory 27 shown in

1 Figure 2) to store a large number of game presentation instruction sets. Storing game  
2 presentation instruction sets at the gaming machines obviates the need for a presentation server  
3 48 and storage 49 respectively at a central location such as processor 47. In cases where the  
4 game presentation instruction sets are prestored on gaming machines 10, the presentation  
5 switching instruction from modification controller 50 simply causes the gaming machines to load  
6 and execute a particular one of the presentation instruction sets identified in the switching  
7 instruction.

8 As shown in Figure 4, a process of controlling gaming machines according to the  
9 invention includes monitoring for switch conditions or switch control signals as shown at process  
10 block 55. The switch conditions may be based on usage as monitored by usage monitoring  
11 arrangement 51 (shown in Figure 3), or some other conditions. Switch control signals may be  
12 derived from inputs by facility management through a suitable interface or from inputs made by  
13 players at the gaming machines 10. If switch conditions are met or if a switch control signal is  
14 present as indicated at decision block 56, the process includes issuing a presentation switch  
15 instruction or command as indicated at block 57. If the result of decision block 56 is negative,  
16 the process returns to block 55 and monitors for an input. It will be appreciated that the process  
17 may be represented without any decision block as shown at 56. Such an alternate representation  
18 of the process would include a process block that simply issues a presentation switch instruction  
19 or command in response to the detected switch conditions or switch control signal.

20 The presentation switch instruction issued at process block 57 will be directed to at least  
21 one recipient gaming machine 10 shown in Figures 1 through 3 using the applicable

1 communications protocol, and may include data identifying the game presentation to be used at  
2 the gaming machine or the data or instruction set for the presentation itself. In this latter case,  
3 the data or instruction set itself may be directed from presentation server storage 49 shown in  
4 Figure 3.

5 For purposes of example, assume that the gaming machines 10 in group 41 provides a  
6 game presentation A, each of the gaming machines in group 42 provides a different game  
7 presentation B, and each gaming machine 10 in group 43 provides yet a different presentation C.  
8 In this example, assume that presentation A happens to be particularly popular at one point in  
9 time and that all of the gaming machines providing that presentation, that is, all gaming machines  
10 10 in group 41, are in use. Further assume that at least some of the machines providing the C  
11 presentation, that is, the gaming machines 10 in group 43 are not in use. It may be desirable in  
12 that situation to have more gaming machines 10 in the gaming facility to switch over to  
13 presentation A from presentation C. According to the present invention, the switch in game  
14 presentations is accomplished by communicating a presentation switching instruction from  
15 modification controller 50, and perhaps a set of game presentation instructions from server  
16 48/storage 49, to one or more of the unused gaming machines 10 in group 43. The switching  
17 instruction will cause the receiving gaming machine 10 to switch presentations to the desired  
18 presentation. The new game presentation will include different graphics for the game video  
19 display 14 associated with the gaming machine as shown in Figures 1 and 2, and usually different  
20 graphics for each additional video display such as displays 15, 17, and 18 shown in Figures 1 and  
21 2.

1           This example illustrates how the additional video displays according to the invention such  
2 as displays 15, 17, and 18 shown in Figures 1 and 2 allow switching game presentations without  
3 taking the gaming machine 10 out of service for any extended period. Furthermore, the present  
4 invention enables the game presentations offered at a given gaming facility to be modified to  
5 meet demand and to optimize gaming machine usage.

6           The above described preferred embodiments are intended to illustrate the principles of the  
7 invention, but not to limit the scope of the invention. Various other embodiments and  
8 modifications to these preferred embodiments may be made by those skilled in the art without  
9 departing from the scope of the following claims. For Example, although the invention  
10 contemplates switching from one game presentation to an entirely different game presentation,  
11 the switching may be between somewhat related game presentations, or presentations having  
12 elements in common with the earlier presentation at the gaming machine. Furthermore, the  
13 invention may be implemented in a data processing environment in which more processing tasks  
14 are performed at a central processing device rather than the individual gaming machine CPUs.  
15 The present invention encompasses these more centralized data processing implementations.